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By: _____

SUBMISSION UNDER 37 CFR 1.116
EXPEDITED PROCEDURE –
EXAMINING GROUP 1762

PATENT
Attorney Docket No.: 02307V-121600US
Client Ref. No.: B02-027-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Confirmation No. 6884
William R. ASHURST et al.	Examiner: Markham, Wesley D.
Application No.: 10/086,652	Technology Center/Art Unit: 1762
Filed: February 28, 2002	
For: VAPOR DEPOSITION OF DIHALODIALKYLSILANES	**SUPPLEMENTAL DECLARATION OF WILLIAM R. ASHURST UNDER 37 CFR §1.131**
Customer No.: 20350	

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Alexandria, VA 22313-1450

Sir:

I, WILLIAM R. ASHURST, hereby declare as follows:

1. I am the William R. Ashurst listed as the first-named inventor in the above-identified patent application, and the declarant in the DECLARATION OF WILLIAM R. ASHURST UNDER 37 CFR §1.131 dated March 4, 2004 in the file of the above-referenced patent application. The aforementioned DECLARATION dated March 4, 2004 is incorporated herein by reference.

2. Exhibit B of the DECLARATION dated March 4, 2004 is a true copy of a laboratory page containing notes from an actual experiment performed by me in the United States, and the entries on the page describe the actual processing steps followed in that experiment, and measurements taken in that experiment confirming the success of the experiment.

3. A transcription and explanations of the entries on Exhibit B, line by line, are set forth below:

Entry	Explanation
"VapSAM coater"	This indicates that the type of experiment was a vapor coating process.
"Processing WRA0067 & WRA0068"	These are code numbers that I assigned, using as a format my initials followed by four digits.
"Sandia Reticle 156"	This refers to micromachine chips produced at Sandia National Laboratories, layout no. TP156.
"Standard release:"	This refers to the release procedure set forth in the succeeding lines.
"90 m HF/HCl"	The first step was a 90-minute exposure of the chips to an etchant containing HF and HCl.
"Water Rinse"	
"H_2O_2 xfer"	The chips were exposed to H_2O_2 to partially oxidize the surfaces to facilitate their transfer to the de-scumming solution.
"Descum @ 70°C 10 m"	The chips were treated in a de-scumming solution containing ammonia, H_2O_2 and water at 70°C for ten minutes.
"H_2O_2 @ 80°C 10 m"	The chips were immersed in H_2O_2 at 80°C for ten minutes to make sure that the surfaces were clean and oxidized.

"Water Rinse & Dry" --

"Chiplet + WRA0068 >> VapSAM (DDMS)"	A "chiplet" (i.e., a small piece of Si(100) wafer) and one micromachine sample were placed in a vapor coater apparatus.
"Chiplet + WRA0068 put in VapSAM"	Same as above.
"Pumpdown < 1×10^{-4}"	After the samples were placed in the chamber of the vapor coater apparatus, the chamber was evacuated to a pressure reading of less than 0.1 milliTorr.
"heatup ~ 35°C"	Mild heating was applied to elevate the sample temperature to about 35°C.
"expose 2 torr H_2O + 1 torr DDMS for 5 m"	Water vapor was added to the chamber to a pressure of 2 Torr; DDMS vapor was then added until the pressure reading was 1 Torr greater (for a total of 3 Torr), and this condition was held for 5 minutes.
"Pumpdown < 1×10^{-4}"	The chamber was then evacuated to a pressure reading of less than 0.1 milliTorr.
"T = 43°C"	The sample temperature as measured was 43°C.
"expose 2.2 torr H_2O + 1.1 torr DDMS for 20 m"	Water vapor was added to the chamber until the pressure reading was 2.2 Torr; DDMS was then added until the pressure reading was 1.1 Torr greater (for a total of 3.3 Torr) and these conditions were then held for 20 minutes.
"Pumpdown < 1×10^{-4}"	The chamber was again evacuated to a pressure reading of less than 0.1 milliTorr.
"N_2 backfill"	The chamber was then vented with dry nitrogen gas until the pressure was atmospheric.
"remove water < chiplet = 100°"	The samples were removed from the chamber and the water contact angle on the Si(100) chiplet was immediately measured to be 100°.

4. I further declare that the above statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code, and that any such willful false statement may jeopardize the validity of the subject patent application or any patent resulting therefrom.

Date: June 6, 2004 By: William R. Ashurst
William R. Ashurst

MHH:mhh
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